

Some Tips on Solving Cryptarithms

Cryptarithms can be easy and fun. You don't need to know any advanced mathematics. Straightforward logic and simple arithmetic are all you need. Here are a few tips to get you started.

0 [zero] and 9 are often easily and directly identifiable.

PUZZLE If a number in the
-DECODE rightmost column is
HELPER subtracted from itself,
the result must equal
zero; in this example, R=0

EXAMPLE Likewise, if a number in the
-PROBLEM rightmost column is subtracted
OPERATE from another number, leaving
the latter number unchanged,
the number being subtracted
must equal zero; in this
example, M=0

When a number in a non-rightmost column is subtracted from itself, the result can only be 0 [zero] or 9 (it will be 9 if the column to the right "borrowed 1").

SIMPLE S must equal 9. S cannot be 0 because it appears at the start of
-NUMBER SIMPLE and numbers in cryptarithms never have leading zeroes. It
ENSUES would also be forced to be 9 in a situation where the value of 0
had already been assigned to another letter.

Consider the case of a digit A, which when multiplied by four different non-zero digits B, C, D, and E yields products ending in B, C, D, and E respectively.

A must equal 1. (6 exhibits a similar pattern, but in a smaller number of cases; e.g. $6*2 = 12$, $6*4 = 24$, $6*8 = 48$.)